FACT SHEET

BMDO FACT SHEET 304-00-11 Replaces Fact Sheet 304-99-01

INNOVATIVE SCIENCE AND TECHNOLOGY PROGRAM

INTRODUCTION

The Ballistic Missile Defense Organization (BMDO) depends on advanced technology of all kinds to invigorate its ability to defend against increasingly sophisticated ballistic missile threats. The BMDO has traditionally nurtured technology with a major impact in other defense sectors and in the national economy. Today, the BMDO spurs scientific innovation and enhances our economic security due to its ongoing emphasis on advanced technology. These two considerations require the BMDO to continue to foster advanced research and development of new technologies in the military sector, with possible spin-off for commercial utlization.

THE ROLE OF THE INNOVATIVE SCIENCE AND TECHNOLOGY PROGRAM

The Innovative Science & Technology (IS&T) program is at the forefront of scientific research and development (R&D) in the BMDO. IS&T is a broad scientific effort intended to help the BMDO solve ballistic missile defense issues by expanding the architectural options available for ballistic missile defense. In broadest terms, IS&T seeks to expand the technology available to the BMDO in all fields. This mission involves IS&T in diverse projects such as imaging, communications, sensors, power generation, propellants, electronics, and miniaturization.

IS&T enhances ballistic missile defense options by expanding current capabilities and creating entirely new ones. The IS&T program pursues speculative, high risk technologies that could spur a revolutionary leap in capability, fulfilling BMDO's need for a bold and ambitious research program that is not limited to a single area of missile defense capability. Its founding principle is to establish a government funding office to quicken the pace of technology development and decrease the amount of time needed to transform scientific breakthroughs into reality.

OBJECTIVES OF THE INNOVATIVE SCIENCE AND TECHNOLOGY PROGRAM

- **Innovation -- Encourage and sponsor forefront research and development to enhance national security;**
- **Technology Transition -- Find new ways to transition promising technology from the research phase into early development;**
- **Commercialization -- Aggressively move defense technology into the private sector to enhance economic security;**
- **Education -- Assist the quality training of student scientists and engineers in disciplines critical to national security.**

IS&T FUNCTIONS

The IS&T program has two major thrusts. First, it provides seed funding to promising technologies and prepares those technologies for advanced technology demonstrators. Second, the IS&T program transfers technology to the private sector. With these two broad goals, the IS&T program nurtures scientific research, accelerates the most promising ideas toward application, and fosters breakthroughs in a wide variety of advanced technologies.

The IS&T follows several basic principles in working toward its goals. The first is to respond quickly to breakthroughs and unique opportunities with funding. Second, IS&T limits the

layers of technical management between the sponsor and investigator to one. Third, basic research and exploratory development are sponsored in parallel to expedite delivery of a product. Fourth, IS&T assists the development of an invention, from inception to feasibility demonstration. Fifth, IS&T strives to forge strong interaction between government, universities, and industry to speed development of a product. Finally, it explores novel pathways to move military technology into industry and commercial markets.

The IS&T program is a collaborative effort between the BMDO staff responsible for core R&D funding, Science and Technology Agents (STAs) in other government research agencies, and many scientists and engineers in industry and academia. The BMDO maintains oversight, sets development goals, and provides appropriate resources to the executing agencies. The STAs in the Military Services and NASA are the points-of-contact (POCs) for BMDO. They accept white papers for research ideas, write ensuing R&D contracts, distribute funding, and monitor the contractual efforts.

In the Office of the Chief Scientist, the Science and Technology program coordinates with the entire BMDO Small Business Innovative Research program that seeks to innovate technology, specifically from small businesses. The Office also maintains a Technology Applications office that promotes spin-off technologies from all BMDO research to civilian and defense programs in industries such as aerospace, electronics, and medicine. Finally, it administers some special Department of Defense programs that support university research.

IS&T PROGRAM DESCRIPTION

IS&T Applied Research Across Seven Broad Categories Critical to Future BMD Architectures/Systems

- Sensing, Imaging, Ranging, and Discrimination
- Phenomenology Studies, Includes Boost Phase Intercept (BPI) Hand-Over
- Electronic and Photonic Materials and Devices, Includes Wide Band Gap (WBG)
- Information Processing and Computing Technologies
- Directed Energy and Non-Linear Optical Devices and Processes, Includes BPI
- Miniature Interceptor Technology, Propulsion, and Kill Enhancement
- Power Generation and Conditioning

All Programs Executed Through Services or NASA

- BMDO Broad Agency Announcement (BAA) issued for FY01
- Utilizes Approximately 20 Science and Technology Agents (STAs) in Services and NASA That are Recognized Experts to Leverage Service/NASA Funding and Keep Program Both Relevant and On Cutting Edge
- Implements and Executes All Programs by Service Contracts or Grants

Flexible/Responsive Program to Meet Future Needs

- BMDO's Interaction with Universities and the Research Community
- Able to Identify and Act on Break-Through R& D Opportunities as They Arise

Ballistic Missile Defense Organization,
External Affairs
7100 Defense Pentagon
Washington, D.C. 20301-7100
(703) 697-8472